



# **Voice Interoperability Plan for Emergency Responders**

A CJIN Module

# Background

- Original CJIN Voice Trunking Network (VTN)
- Recommended in the 1995 CJIN Legislative Study by Price Waterhouse
- Re-Validated in CJIN re-fresh study in 2002 by Gartner Group



## Voice Interoperability Plan for Emergency Responders

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# Myths and Misconceptions

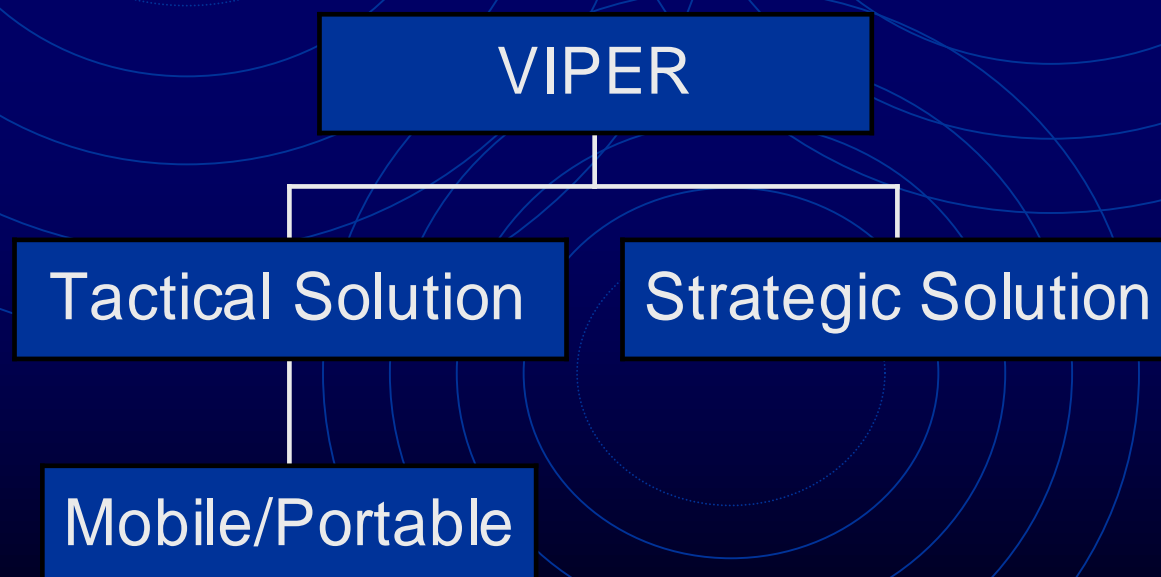
- 800 MHz won't work in the mountains
  - Colorado
  - Utah
- Only a new radio system for the Highway Patrol
  - A lot less headaches
  - A lot less money

# High Profile Examples Lack of Interoperability

- Air Crash at RDU 1994
- Murrah Building, Oklahoma City 1995
- Hurricane Fran 1996
- Hurricane Floyd 1999
- Columbine High School 1999
- Twin Towers, New York City 2001

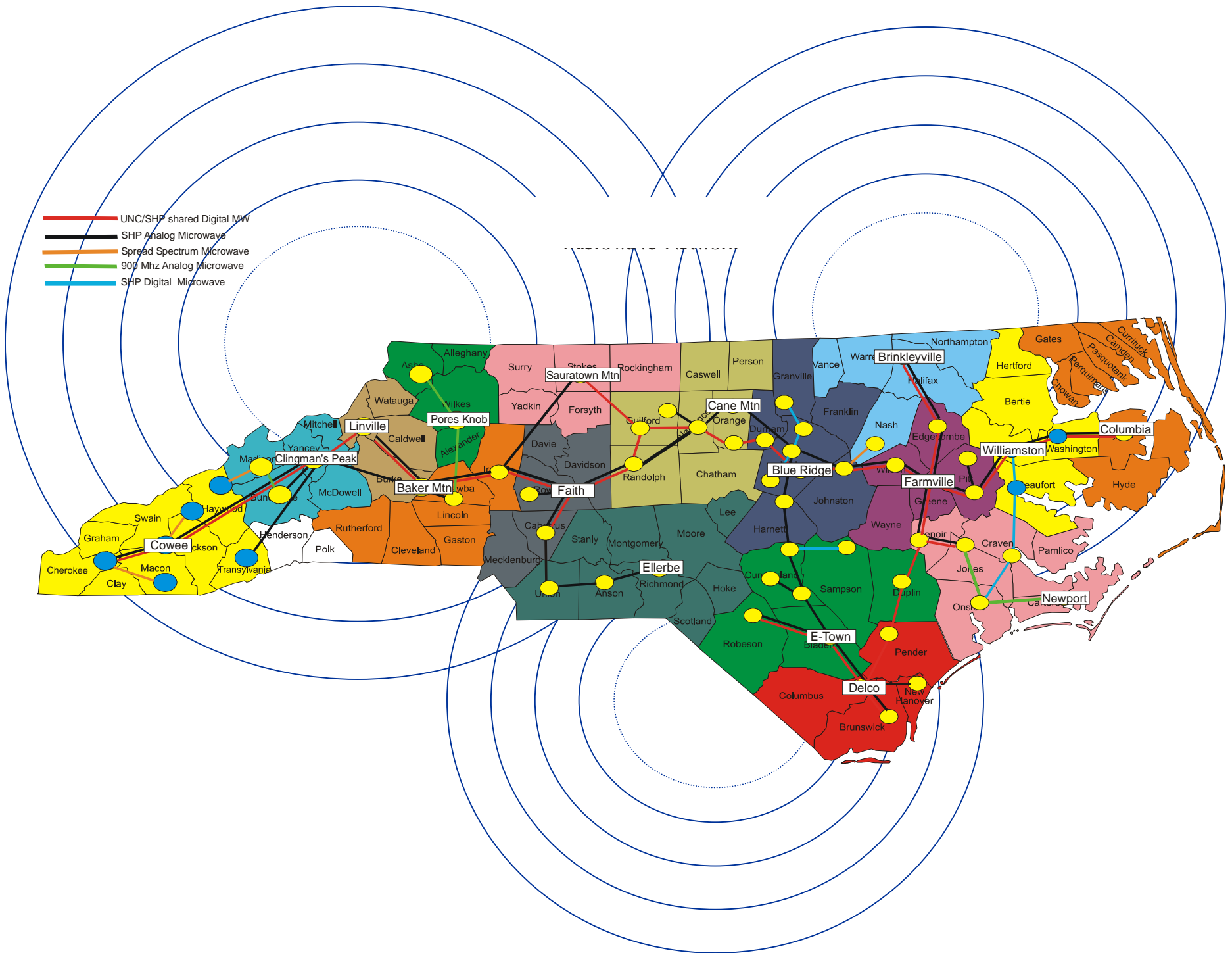
# Voice Interoperability Plan for Emergency Responders

## **VIPER**



# Tactical Solution

- Temporary solution for interoperable emergency communications
- 17 remote fixed site communications gateways
- Controlled at SHP Communications Centers
- Pre-equipped with radios for locals



# Tactical Solution Issues

- Memorandums of Agreement between Agencies
- Operational Plans
  - Plain English (no 10 codes)
  - Who authorizes interconnect
  - Disconnect procedures
- System Capacity impact

# Mobile Solution Tactical

- 3 mobile interoperable communications platforms to eliminate diminished capacity for extended periods
- Pre-positioned across the state
- Long term incidents / events
  - More than 6 to 8 hours
- Enhanced unit to support 800 MHz systems and operate as a standalone communications system
- Large special events



## *What will the Tactical Solution provide*

- Provide temporary interoperable communications with other public safety agencies on-demand during emergencies.
- Provide interoperable communications with those agencies from surrounding jurisdictions that may come to assist you.
- **Mobile solution** can provide temporary communications system if there is a catastrophic system failure state or local.

# Strategic Solution

- Statewide 800 MHz trunked radio system available for **all emergency responders**.
- APCO 25 compliant
- Individual talk groups for agencies
- Mutual aid talk groups
- VIPER is the infrastructure
  - 95% in-street portable coverage
- Agencies responsible for subscriber units
  - Subscriber units from multiple manufacturers
- Governance Committee with representatives from participating local agencies

## *What will the Strategic Solution provide?*

- Provide locals with a state-of-the-art, robust APCO 25 CAI compliant communications system
- Multi manufacturer radios – the option to buy from multiple vendors.
- Autonomous talk groups – agency specific talk groups.
- Coverage redundancy – if a transmitter fails in your area you benefit from infrastructure in surrounding areas.

## *What will the Strategic Solution provide?*

- Interoperable communications daily with a single radio – improved information sharing, quicker response times when resources are needed, enhanced safety for emergency responders, better service to our citizens
- Statewide roaming - ability to respond to emergencies outside normal jurisdictions
- Mutual aid talk groups

North Carolina State Highway Patrol

## Motorola Astro 4.1 SmartZone Controller A-D and OmniLink Site Connection Overview

06/28/04

Initial

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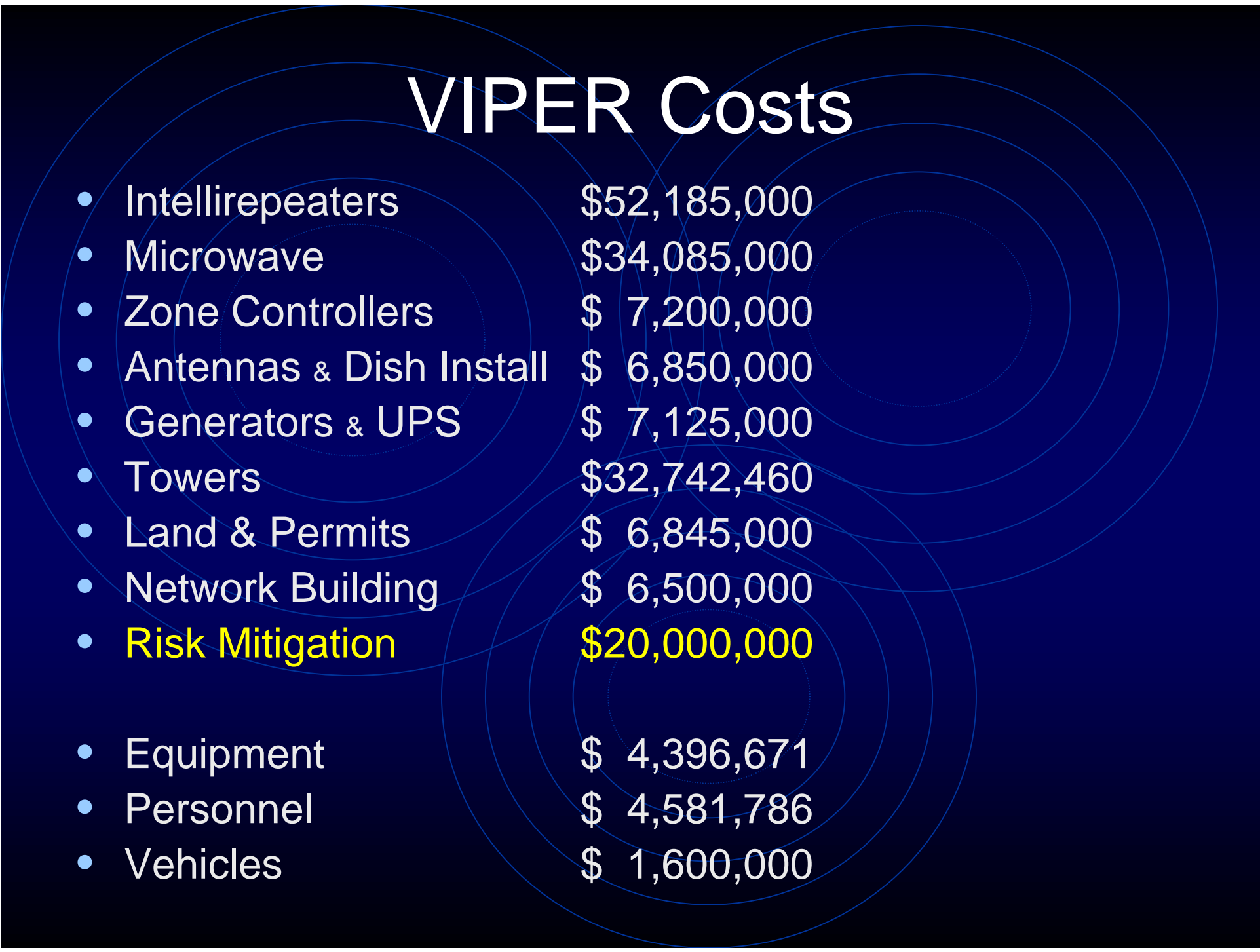
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Drawing  
1 of 1

# Industry Partnerships

- Public Partners
  - 39 sites identified that may be re-useable for the VIPER Strategic Solution from Progress Energy.
  - Duke
  - Dominion Power
  - Time Warner Cable
  - AAA Towers
- Hopefully we can encourage other utility companies to participate.

# VIPER Costs

The background of the slide features a series of concentric circles in a light blue color, centered on the text. These circles vary in size and are distributed across the entire slide, creating a subtle, abstract pattern.

• Intellirepeaters	\$52,185,000
• Microwave	\$34,085,000
• Zone Controllers	\$ 7,200,000
• Antennas & Dish Install	\$ 6,850,000
• Generators & UPS	\$ 7,125,000
• Towers	\$32,742,460
• Land & Permits	\$ 6,845,000
• Network Building	\$ 6,500,000
• Risk Mitigation	<b>\$20,000,000</b>
• Equipment	\$ 4,396,671
• Personnel	\$ 4,581,786
• Vehicles	\$ 1,600,000

# How'd we get these figures

- Construction Costs
- Equipment Costs
- Personnel Costs
- Recurring Costs

# VIPER Recurring Costs

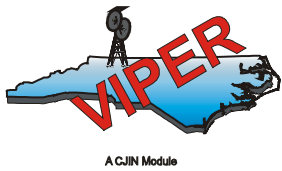
- Personnel
- Training
- Software and hardware maintenance
- Emergency contingency costs
- Utility bills & site maintenance
- Tools and equipment
- Vehicles
- Phased with implementation

# VIPER funding to date

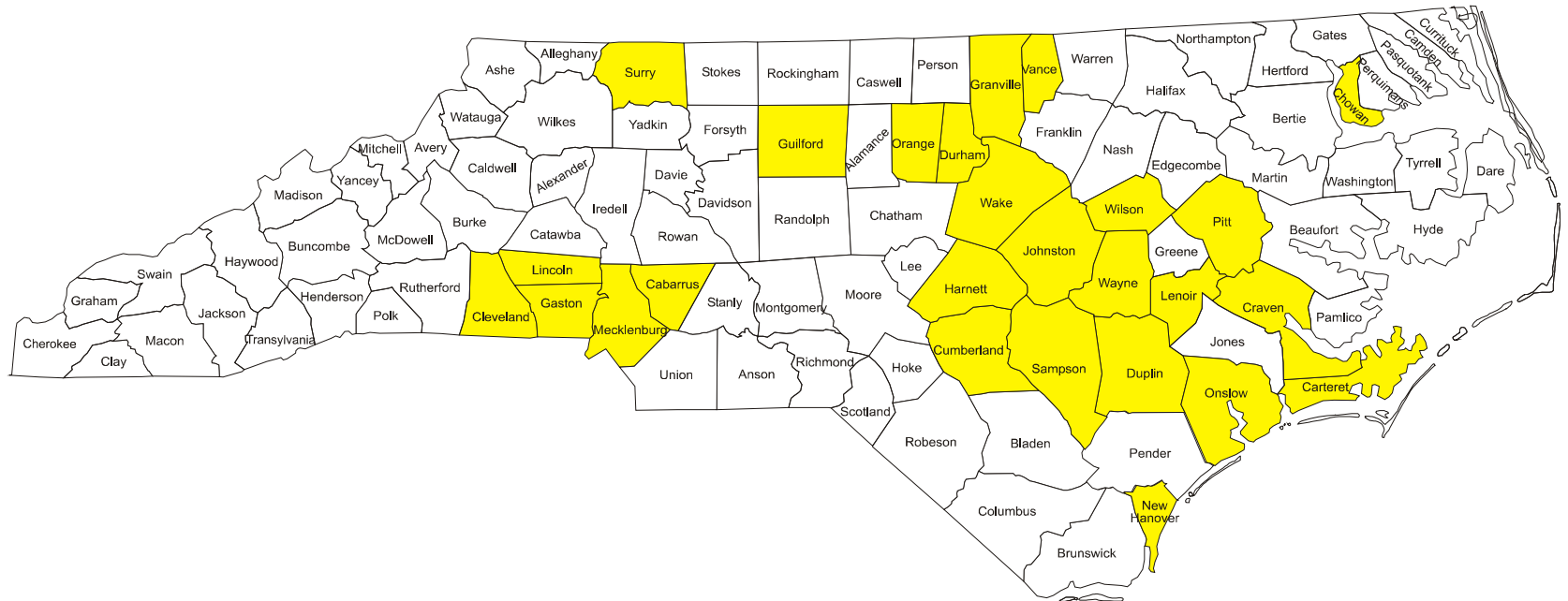
- Federal
  - \$61,300,000.00
- State
  - \$19,000,000.00
- Total
  - \$80,300,000
- Remaining \$116,000,000

# VIPER Summary

- 238 transmitter sites
  - 120 will require construction of a new tower
  - 59 of these will be rebuilding existing towers
  - 61 will require brand new construction sites
  - 118 towers can be reused
- Requires 80 support personnel
  - \$4,581,706 in annual salaries
  - \$1,600,000 in Vehicles
  - \$4.4m in hand tools and technical equipment



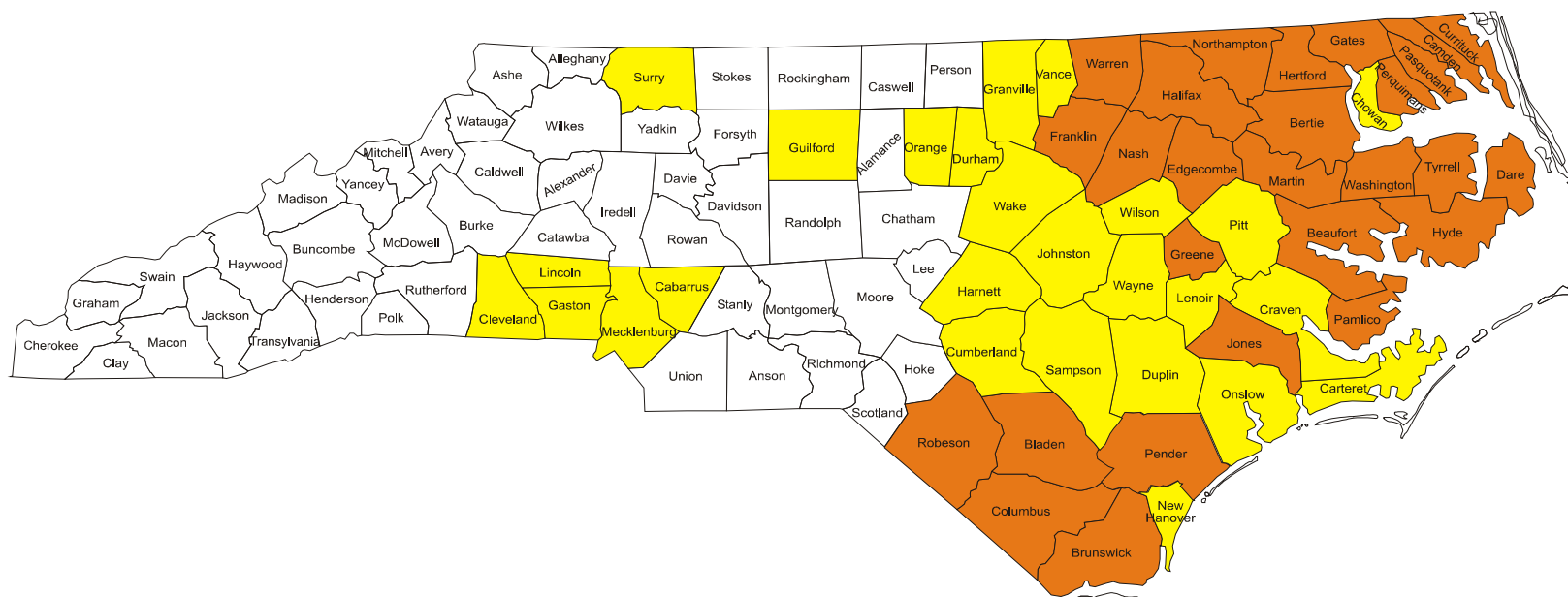
# VIPER Year Zero



Year Zero



# VIPER Year 1



Year One

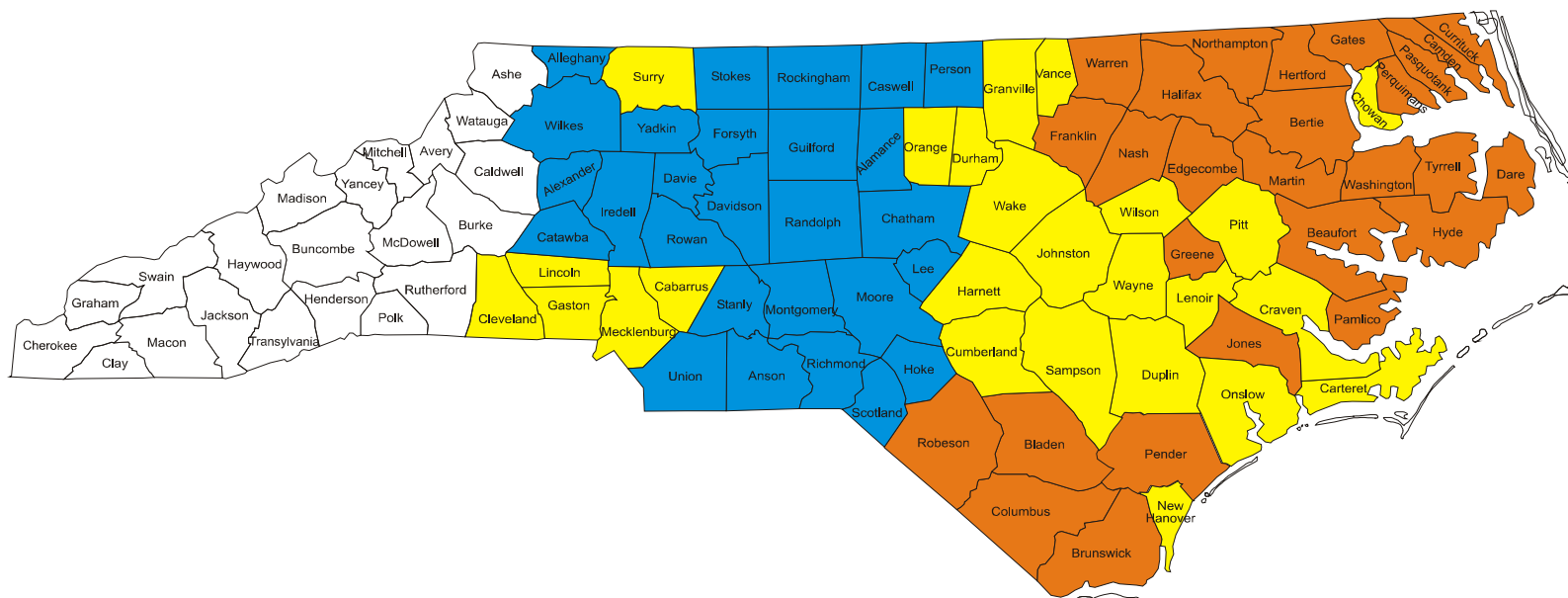


Year Zero





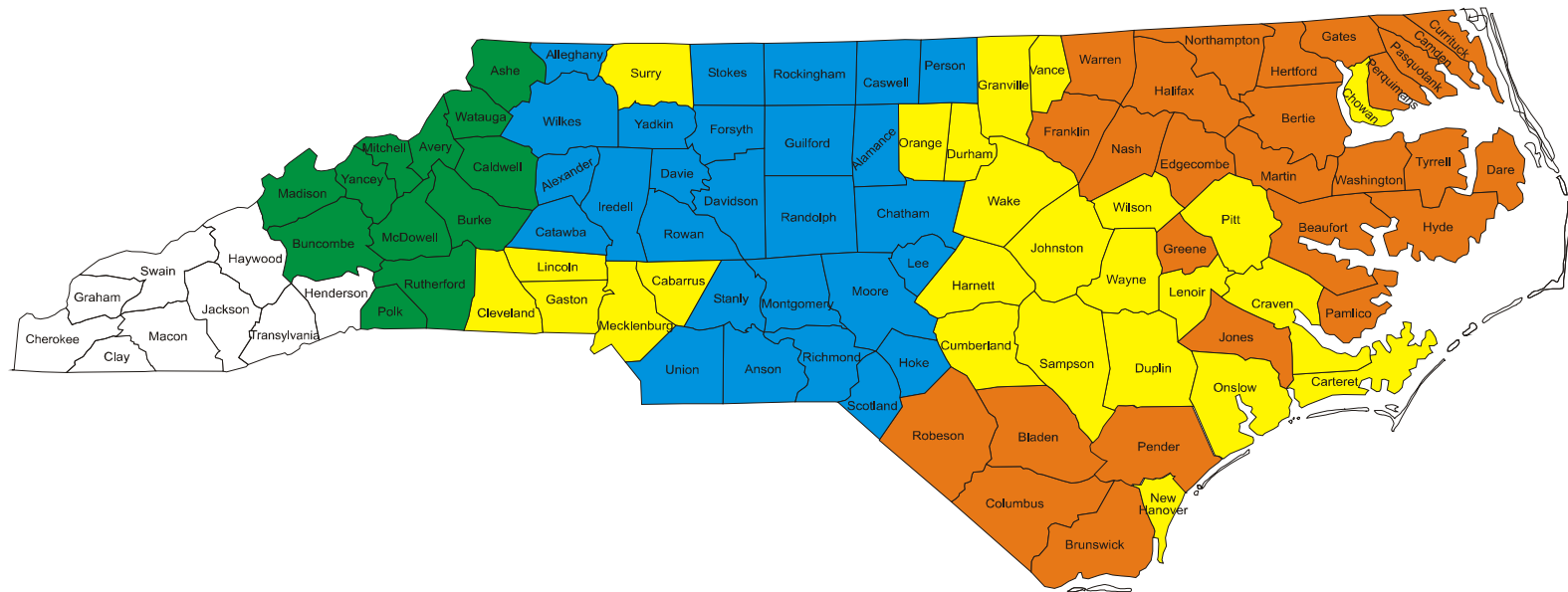
## VIPER Year 2



Year Two ■  
Year One ■  
Year Zero ■



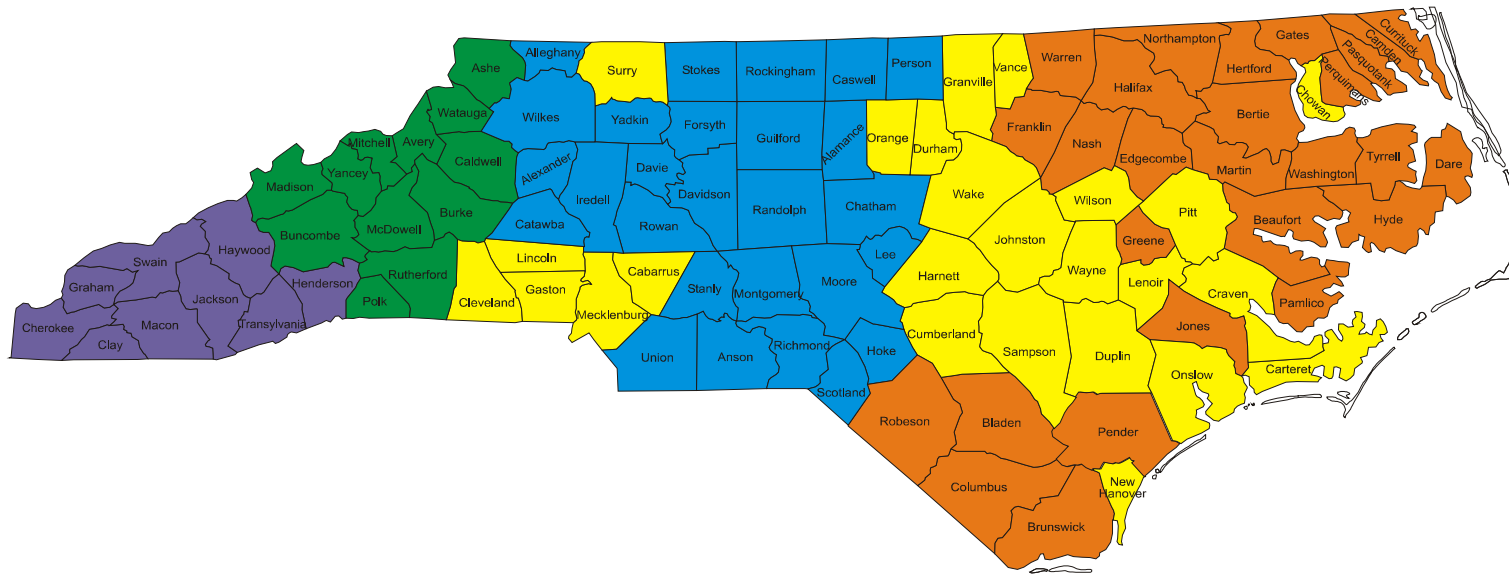
# VIPER Year 3



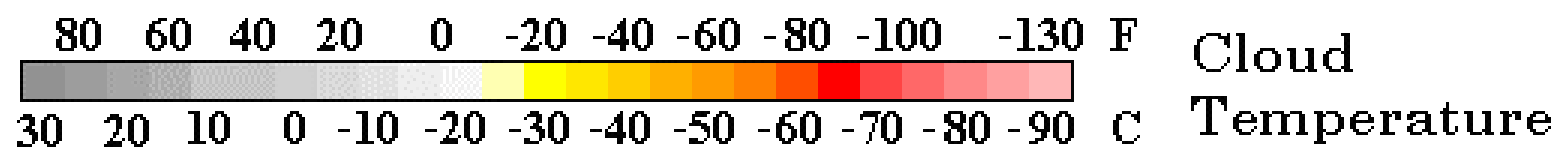
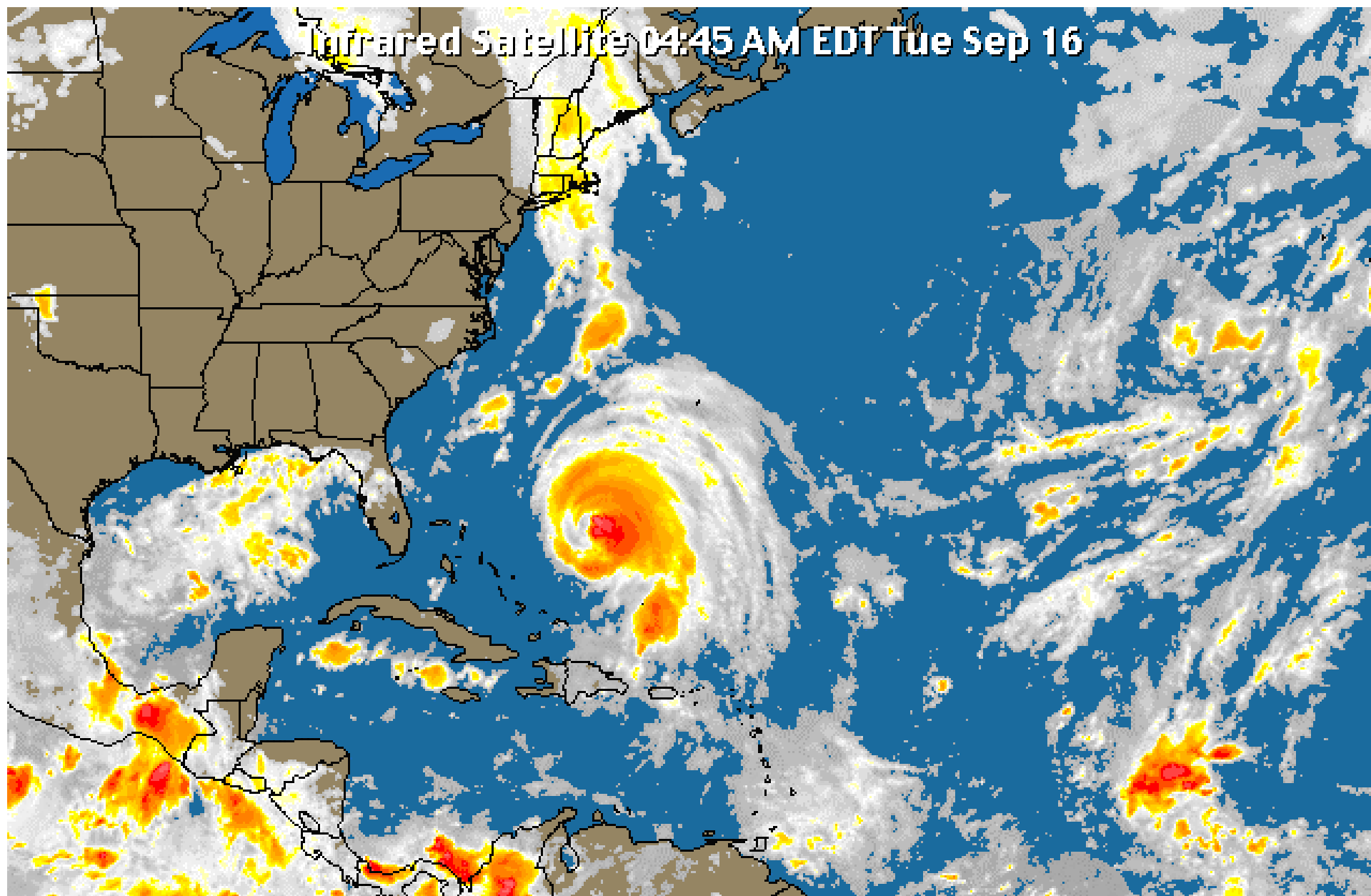
Year Three ■  
 Year Two ■  
 Year One ■  
 Year Zero ■



# VIPER Year 4



- Year Four
- Year Three
- Year Two
- Year One
- Year Zero







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**Thank You**